

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the Union Pacific Railroad Co. for a Determination of the Adequacy of Warning Devices at the Grade Crossings of Its Tracks with CTH "E" in the Town of Randolph and CTH "H" in the Town of Scott, Columbia County

9040-RX-1141

FINDINGS OF FACT AND ORDER

On August 11, 2000, the Union Pacific Railroad Co. (UP) filed a petition with the Office of the Commissioner of Railroads (OCR) for a determination under §195.28, Stats., of the adequacy of warning devices at the grade crossings of its tracks with CTH 'E' in the Town of Randolph (crossing no. 179 194F / NWS 79.26) and CTH 'H' in the Town of Scott (crossing no. 179 201N / NWS 82.79), Columbia County.

An OCR investigator inspected the crossings in July 2001. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

The Union Pacific Railroad Co. operates 4 through train movements per day over both crossings at a timetable speed of 50 mph. The UP also operates one switch movement per day on average at about 20 mph. Each crossing consists of one mainline track.

CTH 'E' in the Town of Randolph crossing no. 179 194F / NWS 79.26

CTH 'E' is a 2-lane roadway in the vicinity of the crossing and intersects the railroad tracks at an angle of 30° to 59°. CTH 'E' carried an average daily traffic (ADT) of 350 according to 2000 DOT records.

The exposure factor at this crossing is 1400. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing. The Department of Transportation's Facilities Development Manual (FDM) recommends consideration of automatic flashing lights when the exposure factor at a crossing exceeds 3,000-5,000 in a rural area. The FDM also recommends the consideration of gates when the exposure factor exceeds 20,000.

No train-vehicle accidents have occurred at this crossing since 1973.

Accidents that do occur here will likely be quite serious if a through train is involved due to their 40 mph speed. Train speed is strongly correlated with fatalities in train/vehicle accidents. More specifically, crossings with train speeds of 40 mph and over have a disproportionate number of fatalities. According to Federal Railroad Administration (FRA) statistics, nationally, in 1994 71% of fatalities occurred at crossings with train speeds of 40 mph+, even though only 26% of all crossings had train speeds of 40 mph+.

The crossing is presently protected with wig wags. Wig wags are an obsolete type of automatic signal. The signals at CTH 'E' were installed in 1942. The existing warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, 12" LED automatic flashing lights with gates and constant warning time circuitry are needed.

CTH 'H' in the Town of Scott crossing no. 179 201N / NWS 82.79

CTH 'H' is 24' wide with 3'-wide gravel shoulders in the vicinity of the crossing and intersects the railroad tracks at an angle of 60°. The roadway approaches to the crossing are flat on the south and 2% ascending on the north. CTH 'H' carried an ADT of 250 according to 2000 DOT records at a legal speed limit of 55 mph (unposted).

A motorist traveling at 55 mph requires a safe stopping distance of 560'. The crossing is visible from more than 560' in each direction. Assuming a train speed of 40 mph, a motorist traveling at 55 mph needs to see a train when it is 450' from the crossing from a point 560' down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 35' northwest quadrant, 40' northeast quadrant, 55' southwest quadrant and 200' southeast quadrant. The sight distance is inadequate in all quadrants.

The exposure factor at this crossing is 1250.

One train-vehicle accident has occurred at this crossing since 1973. The accident occurred in 1991 with 4 injuries.

Accidents that do occur here will likely be quite serious if a through train is involved due to their 40 mph speed.

The crossing is presently protected with one reflective crossbuck and one old wig wag signal. The existing warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, 12" LED automatic flashing lights with gates and constant warning time circuitry are needed.

In addition, the order requires Columbia County to install and maintain pavement markings at both crossings. The Manual on Uniform Traffic Control Devices (MUTCD) requires pavement markings at all crossings with signals or gates (section 8B-4).

Constant warning time circuitry adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

Light emitting diodes (LED) are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Source of funding: The OCR will use federal safety funds to pay 75% of the cost for the gates and state safety funds to pay the 25% match.

Conclusion on the Issue

THE COMMISSIONER CONCLUDES:

1. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with gates and constant warning time circuitry at the crossing of the tracks of the Union Pacific Railroad Co. with CTH 'E' in the Town of Randolph, Columbia County.

2. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with gates and constant warning time circuitry at the crossing of the tracks of the Union Pacific Railroad Co. with CTH 'H' in the Town of Scott, Columbia County.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28 , Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Union Pacific Railroad Co.** shall install and maintain 12" LED automatic flashing lights, gates, constant warning time circuitry and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **CTH 'E'** at-grade in the Town of Randolph, Columbia County by **December 31, 2004** (Crossing No. 179 194F).

2. That the **Union Pacific Railroad Co.** shall install and maintain 12" LED automatic flashing lights, gates, constant warning time circuitry and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **CTH 'H'** at-grade in the Town of Scott, Columbia County by **December 31, 2004** (Crossing No. 179 201N).

3. That the **Union Pacific Railroad Co.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

4. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

5. That **Columbia County** shall install and maintain pavement markings on each approach to the CTH 'E' and CTH 'H' crossings by **December 31, 2004**.

6. That **Columbia County** and the **Union Pacific Railroad Co.** shall notify the Office of the Commissioner of Railroads in writing upon completion of the work required by this order.

7. That the Union Pacific Railroad Co. shall bear no part of the cost of the crossing signals installation, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

8. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.

9. That jurisdiction is retained.

Dated at Madison, Wisconsin, _____.

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen
Commissioner of Railroads

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